3. (Once Amended) A method according to claim 1 [wherein the singlet count rate is related to the spontaneous fission rate, the self-multiplication factor, where

$$m = \frac{1-p}{(1-p)\,u_I}$$

and p = probability first neutron causes induced fission; the detection efficiency, and the α,n reaction rate by the function,

$$R_I = \varepsilon\, F_s\, M\, v_{SI}(1 + \alpha).]$$

wherein the single neutron count rate (R_1) is related to the spontaneous fission rate (F_s), the self induced fission rate (M), the detection efficiency (ε) and the α,n reaction rate (α) by the function:

$$R_1 = (\varepsilon\,)(F_s)(\,M)\,(v_{S1})\,(1 + \alpha)\,,$$

wherein v_{S1} is a first spontaneous fission factorial moment for plutonium.